

Bronkhorst CORI-FILL System Goes from Strength to Strength

Bronkhorst back in 2009 introduced CORI-FILL technology for its Coriolis product portfolio and after five years this technology is now a standard feature and growing in its uses and applications.

CORI-FILL is suitable for a whole range of batching, blending, dosing, filling a sterilization applications. The market place this is aimed at is vast and as we have found over the years it is being used from very low dose amounts to high volumes.

With the conventional methods of using a mass/volume flow meters, separate shut off valves and batch controllers or gravimetric processes using weighing scales where fluids are dosed one by one this can be time consuming, sometimes inaccurate and costly as there also is some need for engineering experience to tune the system correctly.

Using the Bronkhorst CORI-FILL system which is very much a plug & play type system this can make life for the end user so much simpler. Using one of our Coriolis instruments with a close coupled pump or valve the CORI-FILL system is neat and compact so requires little installation space. What this means is that the pipe lengths from raw ingredients to the process can be kept short to ensure the optimum condition of fluids. The CORI-FILL system uses Coriolis technology which measures the true mass passing through the flow tube. The flow measurement is independent of the fluid properties and this in turn means that it is possible to use the instrument on various fluids at any one time and still have very accurate dosed quantities. The CORI-FILL system can offer to the end user an improved accuracy of dosing and this can also bring shorter production times.

The CORI-FILL system can dose from 0.1 g/hr and up to 1000 kg/hr. Over the years we have gained experience and as the technology used in the system also has improved the systems capabilities to control dosing down to <0.3secs using shut off valves and for longer periods either a proportional control valve or pump if the fluid is not stored in a pressurised vessel has improved. One of the strengths of the CORI-FILL system is that it has a dedicated output for either a valve or pump control which means that this can be used with any valve or pump technology. The flowmeters on board PID controller can be used for optimising the control to offer down to +/-0.5% accuracy or better. A key feature of using Coriolis technology is that through the digital outputs the end users can measure the density and temperature of the fluid passing through. The CORI-FILL systems also have a self learning functionality and the ability to be first time right. Within the software package supplied free of charge the end user has the capability to adjust the method of dosing from fast dosing with a reduced slope at the end to a slow dose from start to finish. Another very powerful feature is the alarm functionality. The system can give you minimum, maximum or response alarms so for example if the fluid vessel is empty you can have an alarm output signal. This could also save other high cost machinery.

Even if the environment is aggressive we are still able to supply the CORI-FILL system. The CORI-FILL system uses our Coriolis instruments and these can be ATEX Zone 1 or 2 rated or IP65. We can also integrate these with pumps and valves that are ATEX rated too so the CORI-FILL system can be used for any application. With demand from the field the CORI-FILL system can also come in various wetted parts materials so if the fluid is aggressive a solution can be found.

The CORI-FILL system has the ability for multiple controllers to be networked together via a fieldbus connection so if you were looking for an accurate way to blend ingredients then this would be very suitable. With the flowmeter being independent of fluid properties this system can be used on various fluids so after one recipe is done and cleaning is undertaken then the system can be used again on different fluids. The net result will be a cost saving of capital equipment. Also with the fluids being able to be directly injected to the process with no need for a weigh scale there is a reduction in health & safety challenges through open containers not being in the working atmosphere.

We recently supplied the CORI-FILL system to an end user who needed to update and automate the dosing for colour and flavour in to their process line. The previous system needed a lot of maintenance and man power. Using the CORI-FILL systems powerful feedback and outputs to the control station the end user is now able to control the process better and improve the quality of the end product.